MARIA L. BLANTON, PH.D.

SENIOR SCIENTIST

TERC
2067 MASSACHUSETTS AVE
CAMBRIDGE, MA
E-MAIL: MARIA_BLANTON@TERC.EDU PHONE: (617)873-9640

ACADEMIC DEGREES:

Ph.D., Mathematics Education, (Minor, Mathematics), North Carolina State University, 1998
M. A., Mathematics, University of North Carolina - Wilmington, 1991
B. A., Mathematics, Secondary Certification, University of North Carolina - Wilmington, 1989 (*summa cum laude)*

PROFESSIONAL APPOINTMENTS & AWARDS:

Senior Scientist, TERC, 2011 - Present
Full Professor, Science, Technology, Engineering and Mathematics Education Dept, University of Massachusetts Dartmouth, 2009-2011
Full Professor, Dept of Mathematics, University of Massachusetts Dartmouth, 2009
Associate Professor, Dept of Mathematics, University of Massachusetts Dartmouth, 2003-2009
Assistant Professor, Dept of Mathematics, University of Massachusetts Dartmouth, 1998-2003

2020 Recipient, International Award for Interdisciplinary Excellence in Mathematics Education, Texas A&M University

SCHOLARSHIP AND PROFESSIONAL ACTIVITIES:

SELECTED PROFESSIONAL ACTIVITIES:

Founding Faculty Member and Advisory Board Member, The Kaput Center for Research and Innovation in STEM Education, University of Massachusetts Dartmouth.

***Chair & Member, Editorial Panel,** *Journal for Research in Mathematics Education*. Appointment period: May 2008-May 2011. ***Chair** of panel, May 2010-May 2011.

Elected to SIGRME National Office - AERA Special Interest Group in Mathematics Education (Co-Chair, 2012-2014; Recording Secretary, 2005-2007).

Member, NSF DRK-12 Early Learning Steering Committee for CADRE (2018):

Advisory Board Member:

Digital Promise Global (Math 3 – 9 Advisory Board Member): *Learner Positioning Systems – Navigating Learner Variability* (ongoing)

Improving Children's Understanding of Mathematical Equivalence: An Efficacy Study (PI: Jodi Davenport, WestEd); 2015 – 2019.

Longitudinal Learning of Viable Argument in Mathematics for Adolescents (LLAMA 1 & 2) (PI: David Yopp, University of Idaho); 2014 – 2019.

Measure Up (PI: Barbara Dougherty, University of Hawaii); 2005.

Using Routines as an Instructional Tool for Developing Elementary Students' Conceptions of Proof" (PIs: Susan Jo Russell, TERC; Deborah Schifter, EDC; and Virginia Bastable, Mt. Holyoke); 2010-2013.

Creation and Dissemination of Upper-Elementary Mathematics Assessment Modules. (PI – Heather Hill, Harvard University); 2008-2011.

Toward a Scalable Model of Mathematics Professional Development: A Field Study of Preparing Facilitators to Implement the Problem-Solving Cycle. (PIs – Hilda Borko, Stanford University; Karen Koellner, University of Colorado, Boulder); 2008-2011.

Developing Conceptual and Procedural Knowledge: The Roles of Self- and Instructional Explanations. (PI – Bethany Rittle-Johnson, Vanderbilt University); 2008-2011.

PROJECT DELTA: Digital Environments of the Learning and Teaching of Algebra. (PI – Catherine Fosnot, CCNY-CUNY)

Guest Editor, *Journal for Research in Mathematics Education* – 2013, 2014, 2017

Guest Editor, Special Journal Issue for *Journal for Mathematicsl Behavior* on Learning Trajectories in Mathematics Education

Invited Member of the ICME-2012 (Korea) TSG Working Group on Teaching and Learning Algebra

Conference Co-Organizer & Co-Chair (with D. Stylianou, CCNY-CUNY and K. Weber, Rutgers) for the International Invitational Conference on *Research Paradigms in the Teaching and Learning of Proof*, Providence, RI, 2007.

Conference Co-Organizer & Co-Chair (with D. Stylianou, CCNY-CUNY) of the

International Invitational Conference on *Teaching and Learning Proof Across the Grades*, Providence, RI, 2004.

Co-chair, Early Algebra Working Group, PME 2003 (Honolulu, Hawaii), 2004 (Bergen, Norway); PME-NA 2002 (Athens, Georgia)

Co-chair, Mathematical Proof Working Group, PME-NA 2004 (Toronto, Canada).

Co-chair, Algebra in the Early Grades Pre-Conference to PME/PME-NA, Honolulu, Hawaii (2003)

Co-Chair and Organizer, *When Is Teacher Change Generative And Self-Sustaining?: Exploring Effective Design Issues In Four Professional Development Programs.* Research symposium at the Annual Meeting of the American Educational Research Association, New Orleans, LA (2002).

Invited Panelist (2000), Algebra Working Group (PME-NA), Tuscon, Arizona.

Invited Participant and Early Algebra Group Leader, 2006 for the Mathematical Association of America/National Science Foundation Conference *Algebra: Gateway to a Technological Future*. Task: Identify funding priorities in algebra research for NSF.

Proposal Review Panelist, National Science Foundation REC Division

NSF Reviewer for Presidential Award for Excellence in Mathematics and Science Teaching

Expert Consultant, Early Algebra, *Teachscape*, San Francisco, CA.

Research Associate, The National Center for the Improvement of Student Learning and Achievement in Mathematics and Science, University of Wisconsin, Madison (OERI-funded) http://www.wcer.wisc.edu/ncisla/ (1998-2003).

Membership in Professional Organizations*:*

International Group for the Psychology of Mathematics Education (PME)
Psychology of Mathematics Education-North America (PME-NA)
American Educational Research Association (AERA)
National Council of Teachers of Mathematics (NCTM)
Mathematical Association of America (through 2001)
Association of Mathematics Teacher Educators (through 2005)

Sabbatical host (2002) for Dr. Manuela David, Universidade Federalde Minas Gerais, Brazil

Consultant, video case reviewer, *Teachscape Project* (2001).

Program Committee Member, 20th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education, Raleigh, NC. (1998)

Doctoral Committee Member

Susan Cobb, University of North Carolina Chapel Hill
Aliska Gibbons, Tufts University
Mary Caddle, Tufts University
Katie Sawrey, Tufts University
Isil Isler, University of Wisconsin Madison
Suzanne Strachota, University of Wisconsin Madison
Jodie Miller, Australian Catholic University (external reviewer)

RESEARCH GRANT ACTIVITY:

RESEARCH GRANTS AWARDED:

Principal Investigator, with A. Gardiner, R. Stroud, TERC; A. Stephens, University of Wisconsin Madison; E. Knuth, University of Texas Austin, ($1,617,966; 9/1/17-8/31/20). *Building a Grades K-2 Early Algebra Learning Progression Prototype for Diverse Populations.* Awarded by the National Science Foundation (Award #1720129).

Principal Investigator, with A. Gardiner, R. Stroud, TERC; A. Stephens, University of Wisconsin Madison; E. Knuth, University of Texas Austin, ($1,399,921; 7/1/17-6/30/21). *Project LEAP: Extending a Grades 3-5 Early Algebra Learning Progression into Grades K-2* Awarded by the IES, US Dept. of Education (Award #R305A170378).

Co-Principal Investigator, with (PI) E. Knuth, University of Texas Austin; A. Gardiner, TERC; A. Stephens, University of Wisconsin Madison ($1,378,542; 6/1/17-5/31/21). Identifying Effective Instructional Practices that Foster the Development of Algebraic Thinking in Elementary School. Awarded by the National Science Foundation (Award #DRL 1721192).

Principal Investigator ($42,000; 2017). *Exceptional Children's Early Algebraic Thinking: Exploring Cognitive Challenges and How Instruction Can Support Learning for Children with Special Needs.* Internal grant awarded by CSTL/TERC.

Principal Investigator, with E. Knuth, A. Stephens, University of Wisconsin-Madison ($97,919; 10/01/15-10/01/16). *RAPID: Retention of Early Algebraic Understanding.* Awarded by the National Science Foundation.

Principal Investigator, with co-Principal Investigator B. Brizuela, Tufts University.

($449,893; 07/15/14-06/30/16). *Learning Trajectories in Grades K-2 Children's Understanding of Algebraic Relationships*. Awarded by the National Science Foundation Discovery Research K-12 Program (DRL-1415509).

Principal Investigator, with E. Knuth, A. Stephens, University of Wisconsin-Madison; D. Stylianou, CCNY-CUNY; Lindsay Demers, TERC ($3,475,976; 7/1/14-6/30/18). *The Impact of a Teacher-Led Early Algebra Intervention on Children's Algebra-Readiness for Middle School*. Awarded by IES, US Department of Education (R305A140092).

Principal Investigator, with E. Knuth, A. Stephens, University of Wisconsin-Madison. $942,794; 10/1/12-9/30/15. *The Impact of Early Algebra on Students' Algebra-Readiness.* Awarded by the National Science Foundation Discovery Research K-12 Program (DRL-1219605).

Principal Investigator, with co-Principal Investigator B. Brizuela, Tufts University. ($415,222; 09/01/11-07/31/13). *Exploring K-2 Children's Understandings of Functions*. Awarded by the National Science Foundation Discovery Research K-12 Program (DRL-1154355).

Principal Investigator, with co-Principal Investigator E. Knuth, University of Wisconsin Madison. ($1.6 million, 2009-2012). *Developing Algebra-Ready Students for Middle School: Exploring the Impact of Early Algebra*. Awarded by the National Science Foundation Discovery Research K-12 Program.

Principal Investigator, *Invigorating The Early Undergraduate Mathematics Experience: Understanding Linkages Between Social And Cognitive Aspects Of Students' Transition To Mathematical Proof* ($580,350, 2003-2008). Awarded by the National Science Foundation, Research on Learning and Education (ROLE) Division (D. Stylianou - Co-Principal Investigator).

Co-Principal Investigator, *Generalizing to Extend Arithmetic to Algebraic Reasoning*. ($750,000, 1999-2003). **Awarded** by the U.S. Department of Education, Office of Educational Research and Improvement. (James J. Kaput - Principal Investigator)

Project Director, *Research Experience for Undergraduates* ($14,000, 2005). **Awarded** by the National Science Foundation in conjunction with ongoing NSF ROLE project to support undergraduate opportunities for participating in research.

Recipient, UMass Dartmouth Travel Grants to support research presentations. Fall 2004, Spring 2005, Fall 2005; Spring 2006; Fall 2006; Spring 2007; Fall 2007; Spring 2008 - $4000.

Project Director, *Building a Mathematics Faculty Community of Practice,* $1000. **Awarded** by the UMass Dartmouth Provost's Office (2004).

Project LEAP in EdWeek:
http://blogs.edweek.org/edweek/inside-school-research/2019/04/early_algebra_aera_2019.html

RESEARCH PUBLICATION AND PRESENTATION ACTIVITY:

MANUSCRIPTS UNDER REVIEW:

Stephens, A., Stroud, R., Knuth, E., Blanton, M., Stylianou, D., Strachota, S., Isler, I., & Gardiner, A. (2018). *The Impact of a Large-Scale Teacher-Led Grade 3 Early Algebra Intervention*. Manuscript under review.

Strachota, S., Stephens, A., Veltri Torres, R., Murphy Gardiner, A., Blanton, M., & Knuth, E. (2019). *What happens when kindergarteners are asked to think about unknown quantities?* Submitted to *Mathematics Teacher: Learning and Teaching PK-12*.

BOOKS & JOURNALS PUBLISHED:

Blanton, M., Gardiner, A., Stephens, A., & Knuth, E., (in press). *LEAP: Learning through an early algebra progression (Grades K – 2).* Didax: Rowley, MA.

Blanton, M., Gardiner, A., Stephens, A., & Knuth, E., (2021). *LEAP: Learning through an early algebra progression (Grade 5).* Didax: Rowley, MA.

Blanton, M., Gardiner, A., Stephens, A., & Knuth, E., (2020). *LEAP: Learning through an early algebra progression (Grade 3).* Didax: Rowley, MA.

Blanton, M., Gardiner, A., Stephens, A., & Knuth, E., (2020). *LEAP: Learning through an early algebra progression (Grade 4).* Didax: Rowley, MA.

Cañadas, M. C., Blanton, M., & Brizuela, B. (2019). (Eds.) Early algebraic thinking. Special Journal Issue for *Infancia y Aprendizaje/Journal for the Study of Education and Development.*

Stylianou, D., & Blanton, M. (2018). *Teaching with mathematical argument: Strategies for supporting everyday instruction.* Heinemann: Portsmouth, NH.

Blanton, M., Levi, L., Crites, T., & Dougherty, B. (2011). *Developing Essential Understanding of Algebraic Thinking for Teaching Mathematics in Grades 3-5* Essential Understanding Series. Reston, VA: National Council of Teachers of Mathematics. Invited as lead writer.

Stylianou, D., Blanton, M., & Knuth, E. (Eds). (2009) *Teaching and Learning Proof Across the Grades: A K-16 Perspective.* Mahwah, NJ: Taylor & Francis Group.

*Reviewed by Hyman Bass, *Journal for Research in Mathematics Education*

*Translated into Korean and Chinese.

Blanton, M. (2008) *Algebra and the Elementary Classroom: Transforming Thinking, Transforming Practice.* Invited book. Portsmouth, NH: Heinemann Publishers.

Kaput, J., Carraher, D. & Blanton, M. (Eds.). (2008) *Algebra in the Early Grades* Mahwah, NJ: Lawrence Erlbaum Associates/Taylor & Francis Group.

*Reviewed by Daniel Chazan, *Journal for Research in Mathematics Education*

INVITED PUBLICATIONS (INCLUDING BOOK & MONOGRAPH CHAPTERS):

Brizuela, B., Blanton, M., Kim, Y. (2021). A kindergarten student's uses and understandings of tables while working with function problems. In *Mathematical reasoning of children and adults: Teaching and learning from an interdisciplinary perspective* (pp. 171 – 190). Gewerbestrasse, Switzerland: Springer International Publishing.

Blanton, M. , Gardiner, A., Knuth, E., Stephens, A., Stylianou, D., & Stroud, R. (2018). Building Solutions for Algebra Readiness. *TERC Hands-On!*

Sarama, J., Clements, D., Nielsen, N., Blanton, M., Romance, N., Hoover, M., Staudt, C., Baroody, A., McWayne, C., and McCulloch, C., (2018). Considerations for STEM education from PreK through grade 3. Waltham, MA: Education Development Center, Inc. Retrieved from http://cadrek12.org/resources/considerations-stem-education-prek-through-grade-3.

Blanton, M. (2018). *Empowering children to think algebraically.* Invited WikiLetter available at https://maths4maryams.org/mathed/farsi/ and https://maths4maryams.org/mathed/.

Blanton, M., Brizuela, B., Stephens, A., Knuth, E., Isler, I., Gardiner, A., Stroud, R., Fonger, N., & Stylianou, D. (2018). Implementing a framework for early algebra. In C. Kieran (Ed.), *Teaching and learning algebraic thinking with 5- to 12-year-olds: The global evolution of an emerging field of research and practice*. (pp. 27-49). Hamburg, Germany: Springer International Publishing.

Strachota, S., Knuth, E., & Blanton, M., (2018). Cycles of generalizing activities in classroom. In C. Kieran (Ed.), *Teaching and learning algebraic thinking with 5- to 12-year-olds: The global evolution of an emerging field of research and practice*. Hamburg, Germany: Springer International Publishing.

Blanton, M. (2017). Algebraic reasoning in grades 3-5. In M. Battista (Ed.), *Reasoning and sense making in the elementary grades: Grades 3 – 5.* Pp. 67 – 102. NCTM: Reston, VA.

Stephens, A.C., & Blanton, M. (2017). Algebraic reasoning in kindergarten – Grade 2. In M. Battista (Ed.), *Reasoning and sense making in elementary grades: Grades K – 5*. NCTM: Reston, VA.

Soares, J., Blanton, M., & Kaput, J. (2017). Thinking algebraically across the elementary school curriculum. In D. Thiessan (Ed.) *Exploring math through literature*. Reston, VA: National Council of Teachers of Mathematics. Available at http://www.nctm.org/Publications/Microsites/Exploring-Math-through-Literature/Algebraic-Thinking-K-5/Thinking-Algebraically-across-the-Elementary-School-Curriculum/.

Stephens, A. C., Ellis, A. B., Blanton, M., & Brizuela, B. M. (2017). Algebraic thinking in the elementary and middle grades. In J. Cai (Ed.), *Compendium for Research in Mathematics Education* (pp. 386-420). Reston, VA: National Council of Teachers of Mathematics.

Sawrey, K., Brizuela, B. M., & Blanton, M. (2015). Student-Produced Representations as a Means for Interrupting the Flow of an Interview. *Estudios de Psicología* (Taylor & Francis, to be published in both Spanish and English).

Blanton, M., & Kaput, J. (2016). Classroom practices that promote algebraic reasoning. In E. Silver & P. Kenney (Eds). *Lessons learned from research: Volume 2: Useful research on teaching important mathematics to all students* (pp. 123 –134). NCTM: Reston, VA.

Brizuela, B.M., Blanton, M., Gardiner, A., Newman-Owens, A., & Sawrey, K. (2015). A first grade student's exploration of variable and variable notation. *Estudios de Psicología* (pp.1-13). Routledge: London (to be published in both Spanish and English).

Blanton, M., & Kaput, J. (2011) Building mathematical generality into curriculum and instruction. In J. Cai and E. Knuth (Eds.), *Early algebraization: A global dialogue from multiple perspectives* (pp. 5-21). Advances in Mathematics Education Monograph Series. New York: Springer.

Blanton, M. Early algebra. (2010). In Z. Usiskin, K. Andersen, & N. Zotto (Eds.), *Future curricular trends in school algebra and geometry.* Charlotte, NC: Information Age.

Blanton, M., & Kaput, J. (2008). Building district capacity for teacher development in algebraic reasoning. In J. Kaput, D. Carraher, & M. Blanton (Eds.), *Algebra in the Early Grades.* Mahwah, NJ: Lawrence Erlbaum Associates/Taylor & Francis Group.

Blanton, M., Stylianou, D., & David, M. (2008). *The nature of scaffolding in whole-class discourse on mathematical proof.* In D. Stylianou, M. Blanton & E. Knuth (Eds). *Teaching and learning proof across the grades: A K-16 perspective*. Mahwah, NJ: Taylor & Francis Group.

Kaput, J., Blanton, M., & Moreno, L. (2008). Algebra from a symbolization point of view. In J. Kaput, D. Carraher, & M. Blanton (Eds.), *Algebra in the Early Grades.* Mahwah, NJ: Erlbaum.

Blanton, M., & Kaput, J. (2005). Helping elementary teachers build mathematical generality into curriculum and instruction. Invited article in Special Edition on Algebraic Thinking, *Zentralblatt für Didaktik der Mathematik (International Reviews on Mathematical Education*). Edited by Jinfa Cai and Eric Knuth. Vol. 37 (1), 34-42.

Kaput, J., & Blanton, M. (2005) Algebrafying the elementary mathematics experience in a teacher-centered, systemic way. In T. Romberg, T. Carpenter, & F. Dremock (Eds.) *Understanding Mathematics and Science Matters (pp. 99-125).* Mahwah, NJ: Lawrence Erlbaum Associates.

Blanton, M., & Kaput, J. (2004). Design principles for instructional contexts that support students' transition from arithmetic to algebraic reasoning: Elements of task and culture. In R. Nemirovsky, B. Warren, A. Rosebery, & J. Solomon (Eds.), *Everyday matters in science and mathematics* (pp. 211-234). Mahwah, NJ: Lawrence Erlbaum.

ARTICLES IN REFEREED JOURNALS:

Stephens, A., Stroud, R., Strachota, S., Stylianou, D., Blanton, M., Knuth, E., & Gardiner, A. M. (2021). What early algebra knowledge persists one year after an elementary grades intervention? *Journal for Research in Mathematics Education, 52*(3), 332 – 348.

Stephens, A., Torres, R., Sung, Y., Strachota, S., Gardiner, A., Blanton, M., Stroud, R., & Knuth, E. (2021). From "you have to have three numbers and a plus sign" to "It's the exact same thing": K–1 students learn to think relationally about equations. *Journal of Mathematical Behavior.*

Ventura, A. C., Brizuela, B. M., Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2021). A learning trajectory in Kindergarten and first grade students' thinking of variable and use of variable notation to represent indeterminate quantities. *Journal of Mathematical Behavior*. https://doi.org/10.1016/j.jmathb.2021.100866.

Ucles, R., Brizuela, B., & Blanton, M. (2020). Kindergarten and first-grade students' understandings and representations of arithmetic properties. *Early Childhood Education Journal.* https://doi.org/10.1007/s10643-020-01123-8

Blanton, M., Isler, I., Stroud, R., Stephens, A., Knuth, E., & Gardiner, A. (2019). Growth in children's understanding of generalizing and representing mathematical structure and relationships. *Educational Studies in Mathematics 102*(2), 193–219, DOI:10.1007/s10649-019-09894-7

Blanton, M., Stroud, R., Stephens, A., Gardiner, A., Stylianou, D., Knuth, E., Isler-Baykal, I., Strachota, S. (2019). Does Early algebra matter?: The effectiveness of an early algebra intervention in grades 3–5. *American Educational Research Journal 56*(5), 1930–1972, DOI: 10.3102/0002831219832301

Blanton, M., Otalora Sevilla, Y., Brizuela, B., Gardiner, A., Sawrey, K., & Gibbons, A. (2018). Exploring Kindergarten Students' Early Understandings of the Equal Sign. *Mathematical Thinking and Learning, 20*(3), 167–201*,* doi: 10.1080/10986065.2018.1474534

Fonger, N. L., Stephens, A., Blanton, M., Isler, I., Knuth, E., & Gardiner, A. (2018). Developing a Learning Progression for Curriculum, Instruction, and Student Learning: An Example from Mathematics Education, *Cognition and Instruction,* 36:1, 30-55, DOI: 10.1080/07370008.2017.1392965

Stephens, A. C., Fonger, N. L., Strachota, S., Isler, I., Blanton, M., Knuth, E., & Gardiner, A. (2017). A Learning Progression for Elementary Students' Functional Thinking. *Mathematical Thinking and Learning 19*(3), 143 – 166. https://doi.org/10.1080/10986065.2017.1328636

Blanton, M., Brizuela, B., Gardiner, A., & Sawrey, K. (2017). A progression in first-grade children's thinking about variable and variable notation in functional relationships. *Educational Studies in Mathematics 95*(2), 181 – 202, DOI 10.1007/s10649-016-9745-0.

Cañadas, M. C., Brizuela, B. M., & Blanton, M. (2016). Second graders articulating ideas about linear functional relationships. *Journal of Mathematical Behavior, 14*, 87-103.

Bolt, D., Kim, J., Blanton, M., & Knuth, E. (2016). Applications of Item Response Theory in mathematics education research. In A. Izaak and J. Remillard (Eds.), Psychometrics and Assessment in Mathematics Education: Opportunities, Challenges, and Interdisciplinary Collaborations, Monograph for *Journal for Research in Mathematics Education.*

Knuth, E., Stephens, A., Blanton, M., & Gardiner, A. (2016). Building a foundation for success in algebra. *Phi Delta Kappan 97*(6), 65-68*.*

Blanton, M., Brizuela, B., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2015*).* A learning trajectory in 6-year-olds' thinking about generalizing functional relationships. *Journal for Research in Mathematics Education, 46*(5), 511-558.

Isler, I., Marum, T., Stephens, A., Blanton, M., Knuth, E., & Gardiner, A. (2014/2015). The string task: Not just for high school. *Teaching Children Mathematics*, *21(*5), 282-292.

Stylianou, D. & Blanton, M. & Rotou, O. (2015). Undergraduate students' proof conceptions: Relationships between understanding, beliefs, and classroom experiences with learning proof. *International Journal for Research in Undergraduate Mathematics Education, 1* (1), 91-134.

Blanton, M., Stephens, A., Knuth, E., Gardiner, A., Isler, I., & Kim, J. (2015). The Development of Children's Algebraic Thinking: The Impact of a Comprehensive Early Algebra Intervention in Third Grade. *Journal for Research in Mathematics Education, 46*(1), 39-87.

Brizuela, B. M., Blanton, M., Sawrey, K., Newman-Owens, A., & Gardiner, A. (2015). Children's Use Of Variables and Variable Notation To Represent Their Algebraic Ideas. *Mathematical Thinking and Learning, 17*, 1-30.

Stephens, A., Blanton, M., Knuth, E., Isler, I., Gardiner, A. (2015). Just say YES to early algebra! *Teaching Children Mathematics, 22*(2), 92–101.

*Selected by *TCM* Editorial Panel as the "Year Favorite" for 2015

Brizuela, B. M., & Blanton, M. (2014). El desarrollo del pensamiento algebraico en niños de escolaridad primaria. *Revista de Psicología (UNLP), 14*, 37-57.

Blanton, M., & Stylianou, D. (2014). Understanding the Role of Transactive Reasoning in Classroom Discourse as Students Learn to Construct Proofs. *Journal of Mathematical Behavior, 34,* 76–98.

Stephens, A., Knuth, E., Blanton, M., Isler, I., Gardiner, A., & Marum, T. (2013). Equation structure and the meaning of the equal sign: The impact of task selection in eliciting elementary students' understandings. *Journal of Mathematical Behavior 32*(2), 173-182.

Stylianou, D. A., & Blanton, M. (2011). "Developing Students' Capacity for Constructing Proofs through Discourse". *Mathematics Teacher*, *105*(2), 140-148.

*Winner of the NCTM 3rd Annual Linking Research and Practice Outstanding Publication Award–Mathematics Teachers

Blanton, M. & Stylianou, D. (2009). Interpreting a Community of Practice Perspective in Discipline-Specific University Faculty Professional Development, *Innovative Higher Education, 34*(2), 79-92.

Soares, J., Blanton, M., Kaput, J. (2006). Thinking algebraically across the elementary school curriculum, *Teaching Children Mathematics 12*(5), 228-235.

Blanton, M., & Kaput, J. (2005). Characterizing a classroom practice that promotes algebraic reasoning. *Journal for Research in Mathematics Education 36*(5), 412-446.

Blanton, M., Westbrook, S., & Carter, G. (2005). Using Valsiner's zone theory to interpret teaching practices in mathematics and science classrooms. *Journal of Mathematics Teacher Education 8*(1), 5-33.

Blanton, M., & Kaput, J. (2003). Developing elementary teachers' algebra eyes and ears. *Teaching Children Mathematics, 10*(2), 70-77.

Blanton, M. (2002). Using an undergraduate geometry course to challenge pre-service teachers' notions of discourse. *Journal of Mathematics Teacher Education, 5*, 117-152.

Blanton, M., Berenson, S, & Norwood, K. (2001). Exploring a pedagogy for the educative supervision of prospective mathematics teachers. *Journal of Mathematics Teacher Education, 4*(3), 177-204.

Blanton, M., Berenson, S., & Norwood, K. (2001). Using classroom discourse to understand a prospective mathematics teacher's developing practice, *Teaching and Teacher Education: An International Journal of Research Studies*, *17*(2), 227-242.

Blanton, M., Hollar, J. C., & Coulombe, W. N. (1996). College calculus students' graphical constructions of a population growth model, *The Mathematics Educator*, 7(1), 15-25.

Blanton, M., & Sadek, I. S. (1994). Optimal active pointwise control of thin plates via state-control parametrization. *Int. J. of Systems Science*, 25, (pp. 2001-2014).

Blanton, M., & Sadek, I. S. (1992). Optimal active pointwise control of vibrating thin plates. *J. Franklin Inst.,* 329(3), (pp. 801-815).

Blanton, M. (1991). Teaching reading in the math classroom. *The Clearing House*, 64(3), (pp. 162-164).

CONFERENCE PROCEEDINGS CO-EDITOR:

S. Berenson, K. Dawkins, M. Blanton, W. Coulombe, J. Kolb, K. Norwood, & L. Stiff (Eds.), (1998), *Proceedings of the Twentieth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Raleigh, North Carolina.

INVITED PLENARY ADDRESS/PRESENTATIONS:

Blanton, M. (2019). *Algebra in the elementary curriculum: Building authentic learning experiences for all students.* Invited presentation at the NCTM Regional Conference, Boston, MA.

Blanton, M. (2018). *Can Young Children Think Algebraically?* Invited presentation, The Kaput Center for Research and Innovation in STEM Education, University of Massachusetts Dartmouth, Dartmouth, MA.

Blanton, M. (2018). *Early Algebraic Thinking: The Case of Variable Notation*. Invited presentation, MESA, University of Georgia, Athens, GA.

Blanton, M., (2016). *How do we prepare students for algebra?* Invited keynote address at the 2016 North Carolina Council of Teachers of Mathematics, Greensboro, NC.

Blanton, M., Brizuela, B., & Stephens, A. (2016). *Elementary children's algebraic thinking.* Invited Paper presented in the Early Algebra Topic Study Group at the *13th Annual Conference of the International Congress on Mathematical Education*, Hamburg, Germany.

Blanton, M., Brizuela, B., & Stephens, A. (2016). *Children's understanding and use of variable notation.* Invited Paper presented in the Algebra Topic Study Group at the *13th Annual Conference of the International Congress on Mathematical Education*, Hamburg, Germany.

Blanton, M. (2015). *Children's understanding and use of variable notation.* Invited presentation to the IES Post Doctoral Group, WCER, University of Wisconsin Madison.

Blanton, M. (2015). *Reasoning Algebraically about Functions.* Invited Keynote at the NCTM Algebra Readiness Institute, Chicago, Illinois.

Blanton, M. (2015). *Early algebraic thinking: EQuIPping children to become mathematical thinkers.* Invited presentation to "EQuIP" Johnston County Summer Teacher Institute.

Blanton, M. (2014). *Learning Progressions in Algebraic Practices: Developing the Ideas of Equality and Variables.* Invited Online Keynote Address for NCTM: Algebra Readiness for All Students.

Blanton, M. (2013). *Learning Progressions in Algebraic Practices: Developing the Ideas of Equality and Variables.* Invited Online Keynote Address for NCTM: Algebra Readiness for All Students.

Blanton, M. (2013). *Early algebra in the era of Common Core*. Invited Keynote Address, North Carolina Math Summit, SAS, Cary, NC.

Brizuela, B. M., Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, June). *La comprensión y el uso de variables entre alumnos en los primeros grados de primaria.* Invited presentation at the meeting on Early Algebra organized by Secretaría de Educación Pública de México, Universidad Pedagógica Nacional, and CONACYT (Comisión Nacional de Ciencia y Técnica), México DF, México.

Brizuela, B., Blanton, M., Sawrey, K., & Newman-Owens, A. (2013). *Grades K-2 Children's Understanding of Variable in Functional Relationships.* Invited presentation at the Tufts University Poincare Institute.

Blanton, M. (2012). *Does Early Algebra Matter: Results of a Grades 3-5 Early Algebra Intervention.* Invited presentation at the North Carolina State University Friday Institute, November, 2012.

Blanton, M. (2012). *Can Children Reason Algebraically?* Invited presentation at the NCTM Regional Conference, Chicago, Illinois.

Blanton, M., Gardiner, A., & Marum, T. (2011). *Integrating Early Algebra into the Common Core*. Presented at the Kaput Center STEM Regional Network Meeting Roundtable Series, University of Massachusetts Dartmouth.

Blanton, M. (2010). *Early Algebra: What Children Can Do and Why It Matters for Mathematics Education.* Invited Lecture, STEM Interdisciplinary Colloquium Series, Tufts University.

Blanton, M. & Stylianou, D. (2009). *Discourse and knowing in undergraduate students' understanding of proof: What difference do our words make?* Invited research colloquium presentation at Michigan State University.

Blanton, M. (2008). *Early Algebra*. Invited presentation at the CSMC 2nd International Curriculum Conference: Future Curricular Trends in School Algebra and Geometry, University of Chicago.

Blanton, M. (2008). *Algebra in the Elementary Grades: Why Do We Need It and How Do We Do It?* Invited presentation at the Kaput Center Colloquium Series, University of Massachusetts Dartmouth.

Blanton, M. (2006). *Democratization of Mathematics Education: Early Algebra as a Particular of the General*. Invited Plenary Address remembering the life and work of James Kaput, Annual Meeting of the Research for Undergraduates in Mathematics Education 2006 National Conference, Rutgers University, New Brunswick, NJ.

REFEREED CONFERENCE PROCEEDINGS WITH RESEARCH PRESENTATION:

Veltri, R., Prough, S., Strachota, S., Knuth, E., Stephens, A., Stylianou, D., Blanton, M., Stroud, R., & Gardiner, A. (2017). The Impact of a Teacher-led Early Algebra Intervention. Poster presented at *39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics,* Indianapolis, IN: Purdue University.

Prough, S., Strachota, S., Veltri, R., Isler, I., Blanton, M., Gardiner, A., Knuth, E., & Stephens, A. (2017). Fostering Generalizations: a classroom discourse analysis. Paper presented at *39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics,* Indianapolis, IN: Purdue University.

Cassidy, M., Stroud, R., Stylianou, D., Blanton, M., Gardiner, A., Knuth, E. & Stephens, A. (October, 2017). *Examining the fidelity of implementation of an early algebra intervention and student learning*. Paper presented at the Psychology of Mathematics Education – North America Conference, Indianapolis, IN.

Isler, I., Strachota, S., Stephens, A., Fonger, N., Blanton, M., Gardiner, A., & Knuth, E. (2017). Grade 6 students' abilities to represent function rules. In *Proceedings of the Tenth Congress of the European Society for Research in Mathematics Education* (pp. 432 - 439). Dublin, Ireland: DCU Institute of Education and ERME.

Strachota, S., Prough, S., Veltri, R., Isler, I., Blanton, M., Gardiner, A., Knuth, E., & Stephens, A. (2017). *Fostering generalizations: A classroom discourse analysis*. Paper presented at 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics, Indianapolis, IN: Purdue University.

Sawrey, K., Brizuela, B., Blanton, M., Gardiner, A., Kim, Y., & Gibbins, A. (2016). *Fosterining young students' relational understanding of the equal sign*. Paper presented at the *13th Annual Conference of the International Congress on Mathematical Education*, Hamburg, Germany.

Strachota, S., Blanton, M., Gardiner, A. M., & Brizuela, B. (2016). *Cycles of Generalizing Activity in the Classroom.* Paper presented at the *13th Annual Conference of the International Congress on Mathematical Education*, Hamburg, Germany.

Strachota, S., Fonger, N., Stephens, A., Blanton, M., Knuth, E., & Gardiner, A. M. (2016). *Understanding Variation in Elementary Students' Functional Thinking*. Paper presented at the 40th Annual Conference of the International Group for the Psychology of Mathematics Education, Szeged, Hungary.

Strachota, S., Isler, I., Fonger, N., Blanton, M., & Gardiner, A. M. (2016, November). *Analyzing Generalizations Through Discourse*. Poster presented at 38th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Tuscon, AZ.

Strachota, S., Isler, I., Kang, H., Stephens, A., Blanton, M., Knuth, E., & Gardiner, A. M. (2015, November). *Arithmetic Properties as a Route into Algebraic Reasoning*. Poster presented at 37th Annual North American Chapter of the International Group for the Psychology of Mathematics Education, East Lansing, MI.

Fonger, N., Stephens, A., Blanton, M., & Knuth, E. (2105). A learning progressions approach to early algebra research and practice. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.). *Proceedings of the 37th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 201-204). East Lansing, MI: Michigan State University.

Newman-Owens, A., Brizuela, B. M., Blanton, M., Sawrey, K., Gardiner, A. M. (2015). "Natural Resources": Two Case Studies in Early Expressions of Generality. In Bartell, T. G., Bieda, K. N., Putnam, R. T., Bradfield, K., & Dominguez, H. (Eds.), *Proceedings of the 37th*

annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. East Lansing, MI: Michigan State University.

Isler, I., Blanton, M., Gardiner, A., Knuth, E., Stephens, A., Kang, H. (2014). A comparison of elementary and middle grades students' algebraic reasoning. *Proceedings of the Joint Meeting of PME 38 and PME-NA 36*. Vancouver, Canada.

Isler, I. Stephens, A., Gardiner, A.., Knuth, E., & Blanton, M. (2013). *Third-graders' generalizations about even numbers and odd numbers: The impact of an early algebra intervention.* Proceedings of the Thirty-Fourth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education. Chicago, IL.

Stephens, A., Isler, I., Marum, T., Blanton, M., Knuth, E., & Gardiner, A. (2012). *From recursive pattern to correspondence rule: Developing students' abilities to engage in functional thinking*. Proceedings of the Thirty-Fourth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education. Kalamazoo, MI: Western Michigan University.

Marum, T., Isler, I., Stephens, A., Gardiner, A., Blanton, M., & Knuth, E. (2011). From specific value to variable: Developing students' abilities to represent unknowns. Proceedings of the Thirty-Third Annual Conference of the North American Chapter of the

International Group for the Psychology of Mathematics Education. Reno, NV: University of Nevada, Reno.

Stylianou, D., Chae, N. & Blanton, M. (2006). Students' proof schemes: A closer look at what characterizes students' proof conceptions. In *Proceedings of the 2006 Meeting of PME-NA*, Yucatan, Mexico.

Blanton, M., Stylianou, D., & Theustad, N. (2005) Undergraduate students' proof conceptions, beliefs about proof and classroom experiences with learning proof, In *Proceedings of the 2005 Meeting of PME-NA,* Blacksburg, VA.

Stylianou, D., & Blanton, M. (2005). Undergraduate students' proof conceptions. EARLI Conference, Cyprus.

Blanton, M., & Stylianou, D. (2004). "A 'Proof Story': Across the Grades: Beginning a Conversation on the Learning of Proof in Grades K-16". In *Proceedings of the 2004 Meeting of PME-NA, Toronto, Canada.*

Blanton, M., & Kaput, J. (2004). Elementary grades students' capacity for functional thinking. In M. Hoines and A. Fuglestad (Eds.), *Proceedings of the 2004 Meeting of PME, (Vol. 2, pp. 135-142).* Bergen, Norway: Bergen University College.

Olive, J., & Blanton, M. (2004). Developing algebraic reasoning in the early grades (K-8): The Early Algebra Working Group. In M. Hoines and A. Fuglestad (Eds.), *Proceedings of the 2004 Meeting of PME, (Vol. 1, p. 269*). Bergen, Norway: Bergen University College.

Blanton, M., Stylianou, D., & David, M. (2003). The nature of instructional scaffolding in undergraduate students' transition to mathematical proof. In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA,* (vol. 2, pp. 113-120), Honolulu, Hawaii: Center for Research and Development Group, University of Hawaii.

Olive, J., Blanton, M., & Kaput, J. (2003). The role of syntax and technology in the development of algebraic reasoning in the early grades (K-8). In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA,* Honolulu, Hawaii: Center for Research and Development Group, University of Hawaii.

Blanton, M., & Stylianou, D. (2002). Exploring sociocultural aspects of undergraduate students' transition to mathematical proof. In D. Mewborn, et al (Eds.), *Proceedings of the Twenty-fourth Annual Meeting for the North American Chapter of the International Group for the Psychology of Mathematics Education, (Vol. 4, pp. 1673-1680).* Athens, GA.

Olive, J., Blanton, M., & Iszak, A. (2002). Investigating and enhancing the development of algebraic reasoning in the early grades (K-8): The Early Algebra Working Group. In D. Mewborn, et al (Eds.), *Proceedings of the Twenty-fourth Annual Meeting for the North*

American Chapter of the International Group for the Psychology of Mathematics Education,(Vol 1, pp. 119-135). Athens, GA.

Stylianou, D. A. & Blanton, M. (2002). Sociocultural factors in undergraduate mathematics: The role of explanation and justification. In *Proceedings of the Second International Conference on the Teaching of Mathematics*. Crete, Greece.

Blanton, M., & Kaput, J. (2002). Design principals for tasks that support algebraic reasoning in elementary classrooms. In A. Cockburn & E. Nardi (Eds.), *Proceedings of the Twenty-sixth International Conference for the Psychology of Mathematics Education,(Vol. 2, pp. 105-112),* Norwich, England.

Kaput, J., & Blanton, M. (2001). Algebrafying the elementary experience Part I: Transforming task structures. In *Proceedings of the ICMI-Algebra Conference* in Melbourne, Australia, December, 2001.

Blanton, M., & Kaput, J. (2001). Algebrafying the elementary mathematics experience Part II: Transforming Practice on a District-Wide Scale. In *Proceedings of the ICMI-Algebra Conference* in Melbourne, Australia, December, 2001.

Blanton, M., & Kaput, J. (2001). Student achievement in an elementary classroom that promotes the development of algebraic thinking. In R. Speiser, et al (Eds.), *Proceedings of the Twenty-third Annual Meeting for the North American Chapter of the International Group for the Psychology of Mathematics Education*, *(Vol. 1, pp. 99-108),* Snowbird, Utah.

Blanton, M., Westbrook, S., & Carter, G. (2001). Using Valsiner's zone theory to interpret a pre-service mathematics teacher's zone of proximal development. In M. Heuvel-Panhuizen (Ed.), *Proceedings of the Twenty-fifth International Conference for the Psychology of Mathematics Education*, *(Vol. 2, pp. 177-184),* Utrecht, The Netherlands.

Blanton, M. & Kaput, J. (October, 2000). Generalizing and progressively formalizing in a third grade mathematics classroom: Conversations about even and odd numbers. In M. Fernández (Ed.) *Proceedings of the Twenty-Second Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Columbus, OH, ERIC Clearinghouse, pp.115-119.

Blanton, M., & Kaput, J. (July, 2000). Characterizing generative and self-sustaining teacher change in a classroom practice that promotes students' algebraic thinking. In T. Nakahara & M. Koyama (Eds.), *Proceedings of the Twenty-Fourth International Conference for the Psychology of Mathematics Education*, *(Vol. 1, p. 144),* Hiroshima, Japan.

Blanton, M. (1999). Using the undergraduate classroom to challenge prospective secondary teachers' notions of mathematical discourse. In O. Zaslavsky (Ed.) *Proceedings*

of the Twenty-Third Annual Conference of the International Group for the Psychology of Mathematics Education, (Vol. 1, p. 266) Haifa, Israel.

Blanton, M., & Westbrook, S. (1998). Examining zones of discourse in prospective mathematics teachers'classrooms. In S. Berenson, K. Dawkins, M. Blanton, W. Coulombe, J. Kolb, K. Norwood, & L. Stiff (Eds.), *Proceedings of the Twentieth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, *(Vol. 1, p. 255),* Raleigh, North Carolina.

Blanton, M., & Berenson, S. B. (1998). The nature of mathematical discourse in a prospective teacher's classroom. In S. Berenson, K. Dawkins, M. Blanton, W. Coulombe, J. Kolb, K. Norwood, & L. Stiff (Eds.), *Proceedings of the Twentieth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, *(Vol. 1, p. 250),* Raleigh, North Carolina.

Blanton, M., & Berenson, S. B. (1997). Mediating pedagogical content knowledge through social interactions: A prospective teacher's emerging practice. In J. A. Dossey, J. O. Swofford, M. Parmentie, & A. E. Dossey (Eds.), *Proceedings of the Nineteenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Bloomington/Normal, Illinois.

Rowell, D., Norwood, K., & Blanton, M. (1997). Children's representations of multiplication. In J. A. Dossey, J. O. Swofford, M. Parmentie, & A. E. Dossey (Eds.), *Proceedings of the Nineteenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Bloomington/Normal, Illinois.

Vidakovic, D., Berenson, S. B., & Blanton, M. (1997). The role of technology in lesson planning: The case of preservice teachers. In J. A. Dossey, J. O. Swofford, M. Parmentie, & A. E. Dossey (Eds*.), Proceedings of the Nineteenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Bloomington/Normal, Illinois.

Vidakovic, D., Berenson, S. B., & Blanton, M. L. (1997). The role of technology in lesson planning: The case of five preservice teachers. In J. Willis, J. D. Price, S. McNeil, B. Robin, & D. A. Willis (Eds.), *Technology and Teacher Education*: *Proceedings of the Eighth Annual Conference of the Society for Information Technology and Teacher Education*. Orlando, Florida.

Blanton, M., & Vidakovic, D. (1996). Preservice teachers' ideas on investigative activities in geometry using microcomputers. In E. Jakubowski (Ed.), *Proceedings of the Eighteenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Panama City, Florida.

Berenson, S. B., & Blanton, M. (1996). Preservice teachers ideas' on teaching the concept of area. In E. Jakubowski (Ed.), *Proceedings of the Eighteenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Panama City, Florida.

Blanton, M., & Coulombe, W. N. (1995). College calculus students' use of verbal and graphical representations to interpret rate of change models. In D. Owens (Ed.), *Proceedings of the Seventeenth Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education.* Columbus, OH.

REFEREED PRESENTATIONS (NO PROCEEDINGS):

Stephens, A., Knuth, E., Blanton, M., Gardiner, A., & Stroud, R. (April 2019). *Developing a Comprehensive Approach to Early Algebra.* Paper presented as part of the symposium *Exploring Diversity and Synergy Across Research Programs Within Early Algebra* at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Strachota, S., Blanton, M., Stephens, A., Murphy Gardiner, A., Ristroph, I., & Knuth, E. (February, 2019). *Supporting instruction that fosters algebraic thinking.* Paper presented at the Association of Mathematics Teacher Educators Annual Conference, Orlando, FL.

Strachota, S., Murphy Gardiner, A., Blanton, M., Stephens, A., & Knuth, E. (April, 2019). *Building Students' algebraic thinking: Explorations with evens and odds.* Paper presented at the National Council of Teachers of Mathematics Annual Meeting, San Diego, CA.

Stroud, R., Blanton, M., Gardiner, A., Knuth, E., Stephens, A., & Stylianou, D. (2019). *Results of a Grades 3 – 5 Early Algebra Intervention with At-Risk Populations.* Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Veltri Torres, R., Prough, S., Strachota, S., Stephens, A., Sung, Y., Gardiner, A., Blanton, M., & Knuth, E., (2019). *Describing the unknown: Moving toward variable notation and algebraic thinking in kindergarten*. Paper presented at the American Educational Research Association Annual Meeting, Toronto, Canada.

Blanton, M., Stroud, R., Gardiner, A., Stylianou, D., Stephens, A., & Knuth, E. (2019). *Project LEAP: Building practical solutions for algebra readiness for all students*. Poster presented at the 2019 IES PI Meeting, Washington, DC.

Allen, S., Brizuela, B. M., & Blanton, M. (2018, April). *Use of Variable Notation to Represent Indeterminate Quantities Among Early and Late Elementary School Students*. Paper presented as part of the Roundtable Session "PreK and Elementary Students' Mathematical Reasoning Processes" at the annual American Educational Research Association (AERA) meeting, New York, NY.

Blanton, M., Stephens, A., Stroud, R., Gardiner, A., & Knuth, E. (2018). *Building a K-2 early algebra learning progression for diverse learners.* Presentation at the NCTM Research Conference, Washington, DC.

Prough, S., Veltri, R., Strachota, S., Stephens, A., Knuth, E., & Blanton, M. (2017). *Supporting Students' Algebraic Reasoning in the Early Grades*. Presentation at Wisconsin Mathematics Council Annual Conference (National Council of Teachers of Mathematics-Affiliate), Green Lake, WI.

Prough, S., Veltri, R., Blanton, M., Gardiner, A., Stroud, R., Knuth, E., Stylianou, D., & Stephens, A. (2018). *Preparing Elementary Students for Algebra: Results of a Grade 3 – 5 Early Algebra Intervention*. Presentation at the 2018 NSF STEM Video Showcase.

Veltri, R., Prough, S., Strachota, S., Sung, Y., Stephens, A., Knuth, E., Stylianou, D., Blanton, M., Stroud, R., & Gardiner, A., (2018). *Impact of a Teacher-Led Early Algebra Intervention.* Presentation at the University of Wisconsin Madison Poster Fair, Madison WI.

Stylianou, D., Cassidy, M., Stroud, R., Blanton, M., Knuth, E., Gardiner, A., & Stephens, A. (April, 2018). *Fidelity of Implementation: Exploring instructional characteristics in a large scale early algebra intervention*. Paper presented at the Annual Meeting of the American Educational Research Association.

Gardiner, A., Stylianou, D., Stephens, A., Knuth, E., Blanton, M., & Stroud, R. (2018). *Pedagogy that Advances Algebraic Reasoning in Elementary Grades.* Presentation at the Annual Meeting of the National Council of Teachers of Mathematics, Washington, DC.

Blanton, M., Gardiner, A., Stylianou, D., Stephens, A., Knuth, E., & Stroud, R. (2018). *How Do We Prepare Students for Algebra?: Designing Tasks that Build Students' Algebraic Thinking.* Presentation at the Annual Meeting of the National Council of Teachers of Mathematics, Washington, DC.

Blanton, M., Stroud, R., Stephens, A., Gardiner, A., Knuth, E., Stylianou, D. (2018). *An Early Algebra Intervention for Upper Elementary Grades*. Presentation at the National Council of Teachers of Mathematics Research Conference as part of the Symposium *Rigorous Research to Improve Learning in Elementary Math for All Students*, Washington, DC.

Blanton, M., Knuth, E., Stephens, A., Stylianou, D., Stroud, R., Gardiner, A., Isler, I., & Strachota, S. (2018). *The Impact of a Teacher-Led Early Algebra Intervention on Children's Algebra-Readiness for Middle School: Grade 3 – 4 Results.* Presentation at the Annual IES PI Meeting, Washington, DC.

Veltri, R., Prough, S., Blanton, M., Gardiner, A., Stroud, R., Knuth, E., Stylianou, D., & Stephens, A. (May, 2018). *Preparing Elementary Students for Algebra: Results of a Grade 3 – 5 Early Algebra Intervention*. Presentation at the 2018 NSF STEM Video Showcase.

Veltri, R., Prough, S., Strachota, S., Sung, Y., Stephens, A., Knuth, E., Stylianou, D., Blanton, M., Stroud, R., & Gardiner, A., (2018). *Impact of a Teacher-Led Early Algebra Intervention.* Presentation at the University of Wisconsin Madison Wisconsin Center for Education Research Poster Fair, Madison WI.

Knuth, E., Blanton, M., Stephens, A., Gardiner, A., Strachota, S., Isler, I., & Stroud, R. (2017). *Longitudinal Study of the Development of Children's Algebraic Thinking in Grades 3 – 5.* Video presentation at the NSF STEM Video Showcase.

Blanton, M., Isler, I., Gardiner, A., Stephens, A., Knuth, E., Stroud, R., & Strachota, S. (2017). *Growth in children's algebraic thinking: A grades 3–5 early algebra intervention.* Paper presented at the National Council of Teachers of Mathematics Research Conference, San Antonio, TX.

Prough, S., Veltri, R., Strachota, S., Stephens, A., Knuth, E., & Blanton, M. (2017). *Supporting Students' Algebraic Reasoning in the Early Grades*. Presentation at Wisconsin Mathematics Council Annual Conference (National Council of Teachers of Mathematics-Affiliate), Green Lake, WI.

Strachota, S., Knuth, E., Stephens, A., & Blanton, M. (2017). *The co-development of Functional Thinking and Equivalence.* Paper presented at the National Council of Teachers of Mathematics Research Conference, San Antonio, TX.

Sawrey, K., Brizuela, B., Blanton, M., Gardiner, A., & Gibbons, A. (2017). *Young children's (K – 2) understandings of generalizing.* Presentation at the STEM Video Showcase for National Science Foundation research projects.

Gibbons, A., Brizuela, B., Blanton, M., Gardiner, A., & Sawrey, K. (2017). *First graders defining and justifying even and odd numbers.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, San Antonio, Texas.

Stephens, A., Isler, I., Stroud, R., Strachota, S., Blanton, M., Knuth, E., & Gardiner, A. (2016). *The impact of a large-scale early algebra intervention*. Paper presented at the Research Conference of the National Council of Teachers of Mathematics.

Strachota, S., Isler, I., Stephens, A., Blanton, M., Knuth, E., Demers, L., & Gardiner, A. (2016). *The Co-development of Core Concepts in Algebra: Functional Thinking and Equality.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics.

Blanton, M., Knuth, E., Stephens, A., Stylianou, D., Stroud, R., Gardiner, A., Isler, I., & Strachota, S. (2016). *The Impact of a Teacher-Led Early Algebra Intervention on Children's Algebra-Readiness for Middle School: Grade 3 Results.* Presentation at the Annual IES PI Meeting, Washington, DC.

Blanton, M., Isler, I., Stephens, A., Knuth, E., Gardiner, A., Strachota, S. (2016). *A longitudinal study of elementary students' use of variable notation to represent mathematical generalizations.* Paper presented at the American Educational Research Association, Washington, DC.

Blanton, M. (2016). *Children's understanding of generalizing relationships*. Poster presented at the DRK-12 PI Meeting, Washington, DC.

Eiland, M.D., Blanton, M., Knuth, E., Stephens, A., & Demers, L. (2016, May). *An early algebra intervention's positive impact on students in grades 3-5*. Poster presentation at 2016 Education and Inequality in 21st Century America: A Research Conference, Stanford, CA.

Blanton, M., Brizuela, B., Gardiner, A., Sawrey, K., Gibbons, A., Yangsook, K. (2016). *The emergence of young children's understanding of the equal sign.* Paper presented at the Annual Meeting of the American Education Research Association, Washington, DC.

Brizuela, B., Sawrey, K., Gardiner, A., Gibbons, A., Yangsook, K. Blanton, M. (2016*). First graders' use of variable notation in a teaching experiment.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, San Francisco, CA.

Stephens, A., Fonger, N., Blanton, M, Knuth, E., Strachota, S., & Isler, I. (2016). *Elementary students' generalization and representation of functional relationships: A learning progressions approach.* Poster presented at the Annual Meeting of the American Education Research Association, Washington, DC.

Eiland, M., Blanton, M., Knuth, E., & Stephens, A. (2016). *An Early Algebra Intervention's Positive Impact on Arithmetic Comprehension.* Paper presented at the Research Conference for the National Council of Teachers of Mathematics, San Francisco, CA.

Kang, H., Stephens, A., Blanton, M., Gardiner, A., Isler, I., & Knuth, E. (2015). *Examining students' algebraic thinking through interview assessment.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, Boston, MA.

Blanton, M., Brizuela, B., Gardiner, A., & Sawrey, K. (2015). *A learning trajectory for children's understanding of variable.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, Boston, MA.

Brizuela, B., Sawrey, K., Blanton, M., & Gardiner, A. (2015). *First Grade Students' Uses of Tables as they Explore Functional Relations.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, Boston, MA.

Sawrey, K., Brizuela, B., Blanton, M., & Gardiner, A., (2015). *Case Studies of Computation and Algebraic Reasoning in K-2 Students.* Paper presented at the Research Conference of the National Council of Teachers of Mathematics, Boston, MA.

Blanton, M. (2015). *Early algebra problems worth solving and why*. Invited presentation for "Problems Worth Solving" Strand, Annual Conference of the National Council of Teachers of Mathematics, Boston, MA.

Brizuela, B., Sawrey, K., Blanton, M., & Gardiner, A. (2015). *First Grade Students' Uses of Tables as they Explore Functional Relations.* Paper presented at the Annual Conference of the American Educational Research Association, Chicago, IL.

Sawrey, K., Brizuela, B., Blanton, M., & Gardiner, A., (2015). *Case Studies of Arithmetic and Algebraic Reasoning in K-2 Students.* Paper presented at the Annual Conference of the American Educational Research Association, Chicago, IL.

Blanton, M., and Brizuela, B. (2014). *Exploring Grades K-2 Children's Understanding of Functions.* Poster presented at the DRK-12 CADRE PI meeting.

Blanton, M., Brizuela, B., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2014). *A learning trajectory first-graders' understanding of variable and variable notation.* Paper presented at the NCTM Research Conference, New Orleans, LA.

Blanton, M., Brizuela, B., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2014). *A learning trajectory first-graders' understanding of generalizing functional relationships.* Paper presented at the Annual Conference of the American Educational Research Association, Philadelphia, PA.

Brizuela, B. M., Blanton, M., Gardiner, A., Newman-Owens, A., & Sawrey, K. (2014, May). *A First Grade Student's Exploration of Variable and Variable Notation.* Paper presented at the Annual Conference of the Jean Piaget Society as part of the Symposium "Developing understandings of mathematical functions: perspectives on learning across the grades," San Francisco, CA.

Brizuela, B. M., Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, June). *La comprensión y el uso de variables entre alumnos en los primeros grados de primaria*. Invited presentation at the meeting on Early Algebra organized by Secretaría de Educación Pública de México, Universidad Pedagógica Nacional, and CONACYT (Comisión Nacional de Ciencia y Técnica), México DF, México.

Sawrey, K. B., Brizuela, B. M., Blanton, M., Gardiner, A., Newman-Owens, A. (2013, October). *How Algebra Experiences Enhance Common Core Mathematical Practices in Young Students*. Presentation at the Association of Teachers of Mathematics of New England Conference, Killington, Vermont.

Brizuela, B., Blanton, M., & Schliemann, A. (2013). *Functions from Kindergarten to Grade 5.* Presented as part of the Discussion Group *Functions from Grades K—12* at the 37th Annual Conference of the International Group for the Psychology of Mathematics Education, Kiel, Germany.

Brizuela, B. M., Blanton, M., Sawrey, K., Gardiner, A., & Newman-Owens, A. (2013, March). *El gradual uso de letras en expresiones matemáticas entre alumnos de primer grado: un estudio de caso.* Invited presentation at the International Seminar: Procesos simbólicos en dominios específicos de aprendizaje, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Bariloche, Provincia de Río Negro, Argentina.

Brizuela, B., Blanton, M., Sawrey, K., Gardiner, A., Newman-Owens, A., Gravel, B. (2013). *Children's use of variable notation in early mathematics education.* Paper presented at the 2013 Jean Piaget Society Conference, Chicago, Illinois.

Brizuela, B., Blanton, M., Sawrey, K., & Newman-Owens, A. (2013). *Grades K-2 Children's Understanding of Variable in Functional Relationships.* Invited presentation at the Poincare Institute, Tufts University, Boston, MA, May 2013.

Blanton, M., Brizuela, B., Gardiner, A., Sawrey, K., & Newman-Owens, A. (2013). *Analyzing learning trajectories in grades K-2 children's understanding of functions.* Discussion group presented at the NCTM Research Pre-Session, Denver, CO.

Brizuela, B., Blanton, M., Sawrey, K., Newman-Owens, A., & Gardiner, A. (2013). *Bringing variable to the forefront of early mathematics education*. Poster session presented at the NCTM Research Pre-Sessions, Denver, CO.

Isler, I., Stephens, A., Gardiner, A., Blanton, M., & Knuth, E. (2013). *Fourth-grade students' abilities to write algebraic expressions and equations.* Poster presented at the NCTM Research Pre-Session, Denver, CO.

Blanton, M. (2013). *Early algebra: Functional thinking as a context for proof and reasoning.* Invited presentation for the Learn-Reflect Strand for Wisconsin Math Council Annual Conference (NCTM-Affiliate), Green Lake, WI.

Gardiner, A., Brizuela, B., Blanton, M., Sawrey, K., & Newman-Owens, A. (2013). *How classroom discourse promotes functional thinking in grades K-2.* Research session presented at the NCTM Annual Meeting, Denver, CO.

Blanton, M., & Gardiner, A. (2013). *Creating mathematical tasks to support children's early algebraic reasoning.* Gallery workshop presented at the NCTM Annual Meeting, Denver, CO.

Blanton, M., Gardiner, A., Brizuela, B., Sawrey, K., & Newman-Owens, A., *Developing children's algebraic thinking through problem-based function tasks.* Gallery workshop presented at the NCTM Annual Meeting, Denver, CO.

Blanton, M. (2012). *Designing, refining, and validating learning trajectories/progressions in early algebra*. Presented as part of the Research Symposium "Learning progressions and trajectories in research: Methodological and theoretical challenges" at the NSF DRK-12 PI Meeting, Washington, DC.

Blanton, M., & Knuth, E. (2012). Developing algebra-ready students for middle school: Exploring the impact of early algebra. Poster presented at the NSF DRK-12 PI Meeting, Washington, DC.

Blanton, M. (2012). Children's algebra understanding: Perspectives from upper and lower elementary grades. Presentation at CSTL Project SHARE, TERC, Cambridge, MA.

Blanton, M., Knuth, E., Stephens, A., Gardiner, A., Isil, I., Marum, T. (2012). *Shifts in children's algebra understanding using a learning progressions approach to early algebra*. Paper presented as part of the Research Symposium "Measuring early algebra impact: Quantitative studies of children's algebra learning"at the NCTM Research Pre-Session, Philadelphia, PA.

Blanton, M., Stephens, A., Gardiner, A., Marum, T., Knuth, E., Isler, I. (2012). *Aligning early algebra learning progressions and assessments in grades 6-7*. Working symposium presented at the NCTM Research Pre-Session, Philadelphia, PA.

Blanton, M., Gardiner, A., & Marum, T. (2012). *Building Common Core Mathematical Practices through early algebra.* Presented at the NCTM Annual Meeting, Philadelphia, PA.

Isil, I., Stephens, A., Knuth, E., Blanton, M., Marum, T., Gardiner, A. (2012). *Elementary students' recognition of algebraic structure: Not all tasks are created equal.* Paper presented at the 2012 Annual Meeting of the American Educational Research Association.

Blanton, M., Knuth, E., Angela Gardiner, Isil Isler, Tim Marum, & Ana Stephens. (2011) *Investigating early algebra learning progressions for grades 3-8.* Working symposium presented at the NCTM Research Pre-Session, Indianapolis, Indiana.

Blanton, M., (Chair, Editorial Panel, *Journal for Research in Mathematics Education*), Heid, K. (Editor -*JRME*), Bieda, M., Oerhtman, M., & Members of the *JRME* Editorial Panel. (2011). "From Dissertation to Research Proposal". *JRME* Mentoring Session at the NCTM Research Pre-Session, Indianapolis, Indiana.

Blanton, M. (2011). Invited participant at the NCTM Research Committee Mentoring Session for Graduate Students and Junior Faculty. (Roundtable topic: Writing and obtaining grants).

Blanton, M., & Knuth, E. (2010). *Analyzing early algebra learning progressions for grades 3-8*. Symposium presentation at the *CADRE*/National Science Foundation PI Meeting, Washington, DC.

Blanton, M. (2010). *Children's understanding of functions.* Invited panel presentation at at the *CADRE*/National Science Foundation PI Meeting, Washington, DC.

Blanton, M., & Stylianou, D. (2010). *Connections between mathematics performance and classroom discourse: A close look at undergraduate students' learning of proof.* Research paper presented at the NCTM Research Pre-Session, San Diego, CA.

Blanton, M. (2010). *What we know about early algebra?* Invited presentation as part of NCTM Research Committee Symposium, *What do we know about Early Algebra: Reflecting on a Decade of Research*, San Diego, CA.

Blanton, M. (2010). Invited participant in *Graduate Student and Junior Faculty Mentoring Session* at the 2010 NCTM Research Pre-session in San Diego, CA. Co-led roundtable discussion on developing grant proposals and obtaining research funding.

Blanton, M. (2010). *Getting Published in JRME*. As a member of the *JRME* Editorial Board, I was invited to participate in this session at the NCTM Research Pre-Session, San Diego, CA. (Due to a late scheduling conflict with another session, I was not able to participate in this session.)

Stylianou, D., & Blanton, M., (2010). *Connections between discourse and knowing in undergraduate students' understanding of proof.* Research paper presented at the 2010 American Educational Research Association, Denver, CO.

Blanton, M., (2010). Democratizing access to deep mathematical ideas: A research program. Invited presentation to the Department of Elementary Education, North Carolina State University.

Blanton, M. (2009). Invited participant in *Graduate Student and Junior Faculty Mentoring Session* at the 2009 NCTM Research Pre-session in Washington, DC. Co-led roundtable discussion on publishing research.

Blanton, M. (2009). *Getting Published in JRME*. As a member of the Editorial Board, I was invited to participate in this session at the NCTM Research Pre-Session. I co-led a roundtable discussion on Theoretical Frameworks in Mathematics Education Research.

Blanton, M., & Stylianou, D. (2008). *The nature of identity in classroom discourse that promotes students' transactive reasoning.* Paper presented at the 2008 American Educational Research Association Annual Conference as part of the symposium *Exploring Frameworks for Capturing Students' Mathematical Identities in Diverse Classroom Settings.*

Helft, S., Stylianou, D., & Blanton, M. (2008). *Understanding the development of aspects of proof construction.* Paper presented at the 2008 American Educational Research Association Annual Conference, New York, NY.

Blanton, M., (Co-Chair and Organizer, with D. Stylianou, P. Herbst, K. Weber, E. Knuth, and C. Rasmussen. *Teaching and Learning Proof Across the Grades: Removing*

Uncertainty. A Working Symposium at the National Council of Teachers of Mathematics Research Pre-Session, Salt Lake City, UT (2008).

Blanton, M. (January, 2007). *Algebra in the elementary grades: Defining research priorities*. Presentation given as part of the symposium "Algebra: Gateway to a Technological Future". Annual Meeting of the Mathematics Association of America, New Orleans, Louisiana.

Blanton, M., & Stylianou, D. (Spring, 2007). *Interpreting a Community of Practice Perspective in University Mathematics Faculty Development.* Paper presented at the National Council of Teachers of Mathematics Research Pre-Session Annual Meeting, Atlanta, GA.

Blanton, M., & Stylianou, D., (Spring, 2007). *Linking discourse to student learning in undergraduate mathematics instruction.* Presented at the National Council of Teachers of Mathematics Research Pre-Session Annual Meeting, Atlanta, GA.

Blanton, M. (2007). *Re-thinking K-12 Mathematics for the 21st Century: Challenges, Innovations and New Directions*. Invited presentation at the Chancellor's Colloquium Series, UMass Dartmouth (with Stephen Hegedus).

Stylianou, D., & Blanton, M. (Spring, 2007). *Proof schemes and problem solving of undergraduate mathematics students.* Paper presented at the American Educational Research Association Annual Conference, Chicago, Illinois.

Stylianou, D., & Blanton, M. (2006). *Undergraduate students' proof conceptions.* Paper presented at the American Educational Research Association Annual Conference., San Francisco, CA.

Stylianou, D., Chae, N. & Blanton, M. (2006). *Students' proof schemes: A closer look at what characterizes students' proof conceptions.* Paper presented at Psychology of Mathematics Education - North America Annual Conference, Yucatan, Mexico.

Blanton, M., (2006). Organizer and chair of *The Discourse of Proof and Argumentation Across the Grades, a* symposium examining discourse as a lens on understanding teaching and learning proof. The National Council of Teachers of Mathematics Research Pre-Session, St. Louis, Missouri.

Blanton, M. (2006). *Instructional Scaffolding in Undergraduate Classroom Discourse on Proof: What difference do our words make and how can we tell?* Research paper resented at the symposium *The Discourse of Proof and Argumentation Across the Grades,* The National Council of Teachers of Mathematics Research Pre-Session, St. Louis, Missouri.

Stylianou, D., & Blanton, M. (2006). *Undergraduate students' proof conceptions.* Research paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. (Stylianou presented this joint work.)

Blanton, M., & Sytlianou, D. (December, 2005). *ROLE: Invigorating The Early Undergraduate Mathematics Experience - Understanding Linkages Between Social And Cognitive Aspects Of Students' Transition To Mathematical Proof.* Poster presentation at the National Science Foundation's PI Meeting.

Blanton, M. (October, 2005). Informal presentation on the research findings of the ROLE Proof Project. Presented at the Rutgers University Robert B. Davis Center Invitational Conference on *Proof and Reasoning*, Brigham Young University, Provo, Utah.

Stylianou, D., & Blanton, M. (Summer, 2005). *Undergraduate students' proof conceptions.* EARLI Conference, Cyprus. (Stylianou presented this joint work.)

Blanton, M., & Stylianou, D. (2005). *Beyond the Veil of Academic Freedom: Building a Mathematics Faculty Community of Practice*. Paper presented as part of the symposium "Inspiring Improvement in Collegiate Classrooms: Professional Development for Mathematics and Science Faculty" at the Annual Meeting of the American Educational Research Association. Montreal, Canada.

Blanton, M. (2005). *Helping teachers build generality into curriculum and instruction.* Paper presented as part of the symposium "Issues of Generalization in Teaching and Learning Across the Grades" at the Annual Meeting of the American Educational Research Association. Montreal, Canada. (Invited Participant).

Blanton, M. (2005). *Helping teachers build generality into curriculum and instruction.* Paper presented as part of the symposium "Issues of Generalization in Teaching and Learning Across the Grades" at the Annual Meeting of the National Council of Teachers of Mathematics, Anaheim, CA. (Invited Participant).

Blanton, M. (2005). *Using the undergraduate mathematics classroom to challenge pre-service secondary teachers' notions of mathematical discourse*. Paper presented as part of the symposium "Classroom Discourse Analysis as a Professional Development Tool" at the Annual Meeting of the Association of Mathematics Teacher Educators, Dallas, Texas. (Invited Participant).

Dougherty, B., & Blanton, M., (2005). *Early Algebra: A Planning Grant for the Future*. Panel discussion held at the Hawaii International Conference on Education, Honolulu, HI. (Invited Participant). (Organizers: B. Dougherty & L. Lee)

Blanton, M. (2005). *The Professional Development Perspective: Early Algebra Research with Teachers in the US*. Presented as part of the Early Algebra Symposium at the Hawaii

International Conference on Education, Honolulu, HI. (Invited Participant). (Organizers: B. Dougherty and L. Lee)

Blanton, M. (2004). Informal presentation on the research agenda of the ROLE Proof Project. Presented at the Invitational Conference on *Proof and Reasoning*, Emerald Isle, NC.

Blanton, M., & Stylianou, D. (2003). *Instructional Scaffolding and the Zone of Proximal Development: An Examination of Whole-Class Discourse and Student Learning in Mathematical Proof*. Presented at SIGMAA Research in Undergraduate Mathematics Education Conference, Scottsdale, Arizona.

Blanton, M. (2003). *Understanding teacher development in algebraic reasoning within a district-based community of learners*. Paper presented as part of the Early Algebra research symposium (D. Carraher, chair), Annual Meeting of the American Educational Research Association, Chicago, IL.

Blanton, M., (2003). *Exploring the teacher's role in scaffolding algebraic conversations in the elementary classroom.* Paper presented as part of the research symposium, Teacher Development through Examination of Practice (K. Koellner-Clark, chair), Annual Meeting of the National Council of Teachers of Mathematics, San Antonio, TX.

Kaput, J., & Blanton, M. (2002) *Integrating arithmetic and algebraic reasoning: Design elements of tasks and classroom practice.* Paper presented in research symposium *Design principles as an impetus for teacher change and student learning* (Kay McClain, organizer) at the Annual Meeting of the National Council for Teachers of Mathematics, Las Vegas, Nevada.

Blanton, M., & Kaput, J. (April, 2002). *Developing Elementary Teachers' Algebra "Eyes and Ears": Understanding Characteristics of Professional Development that Promote Generative and Self-Sustaining Change in Teacher Practice.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Blanton, M., Carter, G., & Westbrook, S. (2001). *Using Valsiner's zone theory to interpret change in classroom practice: Beyond the zone of proximal development.* Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, Washington.

Blanton, M. & Kaput, J. (November, 2000). *A design principle for instructional contexts that facilitate students' transition from arithmetic to algebraic reasoning.* Research presented at the Case Study Instructional Design Conference for associates of the National Center for Improvement of Student Learning and Achievement, Ashland, MA.

Blanton, M. (April, 2000). *Using a subject area course to challenge secondary pre-service teachers' models of teaching: A teacher educator's experience.* Paper presented at the

Annual Meeting of the American Educational Research Association, New Orleans, Louisiana.

Blanton, M. & Kaput, J. (1999). *A case study of algebrafying one elementary teacher's classroom.* Presented at the NCISLA Conference on Teacher Change and Professional Development, University of Wisconsin, Madison, WI.

Kaput, J., & Blanton, M. (1999). *Enabling elementary teachers to achieve generalization and progressively systematic expression of generality in their math classrooms: The role of authentic mathematical experience.* Presented at the NCISLA Conference on Teacher Change and Professional Development, University of Wisconsin, Madison, WI.

Blanton, M. (1999). *Mathematical Discourse in a Prospective Teacher's Classroom: The Case of a Developing Practice.* Paper presented at the Distinguished Paper Awards Session of the American Educational Research Association, Montreal, Canada.

Kaput, J., & Blanton, M. (1999). *Algebraic Reasoning in the Context of Elementary Mathematics: Making it Implementable on a Massive Scale.* Paper presented at the American Educational Research Association, Montreal, Canada.

Blanton, M., & Berenson, S. (1999). *Exploring a pedagogy for educative supervision*. Paper presented at the American Educational Research Association, Montreal, Canada.

Westbrook, S., Blanton, M., & Carter, G. (1999). *Illusions and discourse in the science classroom: Exploring the phantom zone*. Presented at the National Association for Research in Science Teaching (NARST), Boston, MA.

Blanton, M. L. (1998). *Exploring a sociocultural pedagogy for mathematics teacher education*. Presented at the International Conference on Symbolizing and Modeling in Mathematics Education, Universiteit Utrecht, The Netherlands.

Blanton, M. L. (1998). *Mathematical discourse in a prospective teacher's classroom: The case of an emerging practice.* Presented at the Annual Meeting of the North Carolina Association for Research in Education, Greensboro, N.C.

Berenson, S. B., Blanton, M. L., &Vidakovic, D. (1998). *Integrating research and practice in teacher education.* Presented at the First Annual North Carolina Association of Mathematics Teacher Educators, Greenville, N.C.

Blanton, M. L. (1997). *The nature of representations in prospective teachers' planned lessons on area.* Presented at the Annual Meeting of the North Carolina Association for Research in Education, Greensboro, N.C.

Blanton, M. L., Berenson, S. B., & Runesson, U. (1996). *Prospective teachers' use of representations in planned lessons on area.* Paper presented at the Annual Meeting of the Association for Teacher Education in Europe, Glasgow, Scotland.

Blanton, M. L., Coulombe, W. C. (1996). *College calculus students' use of verbal and graphical representations to interpret rate of change models.* Presented at the Annual Meeting of the North Carolina Association for Research in Education, Chapel Hill, N.C.

Blanton, M. L., & Hollar, J. C. (1995). *College calculus students' graphical constructions of rate of change models.* Presented at the Annual Meeting of the North Carolina Association for Research in Education, Greensboro, N.C.

Blanton, M. L., & Sadek, I. S. (1993). *Optimal active pointwise control of thin plates via state-control parametrization.* Paper presented at the South Eastern (U. S.) Regional Conference on Differential Equations, Wilmington, NC.

Blanton, M. L., & Sadek, I. S. (1992). *Optimal active pointwise control of vibrating thin plates*. Paper presented at the Society for Industrial and Applied Mathematics International Conference on Optimization, Chicago, Illinois.

RESEARCH REPORTS:

Carpenter, T., Blanton, M., Cobb, P., Franke, M., Kaput, J., & McClain, K. (2004). *Scaling Up Innovative Practices in Mathematics and Science*. Research Report of the National Center for Improving Student Learning and Achievement in Mathematics and Science.

ADDITIONAL PROFESSIONAL DEVELOPMENT ACTIVITIES (conferences attended *without* research or workshop presentations):
Doctoral Programs in Mathematics Education National Conference, Kansas City, KS, 2007
National Council of Teachers of Mathematics Annual Meeting (2000, 2001, 2004)
Association for Mathematics Teacher Educators (2000)
EDC Seminars for Reform-Based Curricula (2000).

MANUSCRIPTS REVIEWED FOR THE FOLLOWING JOURNALS:

Journal for Research in Mathematics Education
Cognition and Instruction
Journal of Mathematics Teacher Education
Mathematical Thinking and Learning: An International Journal
Journal of Curriculum Studies
Educational Studies in Mathematics
Research in Collegiate Mathematics Education
Journal of Computers in Mathematics and Science Teaching
Zentralblatt für Didaktik der Mathematik (International Reviews on Mathematical Education)